INDEX TO AUTHORS

A

Adams, Mark H. See *Goebel, Shedlovsky, Lavin, and Adams*, 1

Albanese, Anthony A., Holt, L. Emmett, Jr., Kajdi, Charlotte N., and **Frankston, Jane E.** Observations on tryptophane deficiency in rats. Chemical and morphological changes in the blood, 299

Almquist, H. J., Kratzer, F. H., and **Mecchi, E.** Further experiments on creatine formation in the chick, 17

Archibald, Reginald M. See *Beckman, Hiller, Shedlovsky, and Archibald*, 247

Artom, Camillo, and **Fishman, William H.** The relation of the diet to the composition of tissue phospholipids. I. The normal composition of liver and muscle lipids of the rat, with a note on the analytical procedures, 405

— and —. II. Changes in tissue phospholipids induced by experimental diets, 415

— and —. III. Effects of supplemented experimental diets on tissue phospholipids in rats of two age groups, 423

— and **Swanson, Marjorie.** The action of bromo-substituted fatty acids on liver fat, 633

Axelrod, A. E., Gross, Paul, Bosse, M. D., and **Swingle, K. F.** Treatment of leucopenia and granulopenia in rats receiving sulfaguanidine in purified diets, 721

B

Beach, Eliot F., Munks, Bertha, and **Robinson, Abner.** The amino acid composition of animal tissue protein, 431

Beckman, William W., Hiller, Alma, Shedlovsky, Theodore, and **Archibald, Reginald M.** The occurrence in urine of a protein soluble in trichloroacetic acid, 247

Beecher, Henry K., and **Craig, Francis N.** Tissue metabolism following shock induced by hemorrhage, 383

Berg, Robert L. See *Westerfeld and Berg*, 523

Bergeim, Olaf. See *Kirch and Bergeim*, 445

Bernheim, Frederick. See *Handler and Bernheim*, 649

Bina, Albert F., Thomas, James M., and **Brown, Elmer B.** The determination of vitamin B_6 (pyridoxine) in foods, 111

Birkinshaw, J. H., and **Raistrick, H.** Notatin: an antibacterial glucose aerodehydrogenase from *Penicillium notatum* Westling, 459

Bonner, John F. See *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321

Bosse, M. D. See *Axelrod, Gross, Bosse, and Swingle*, 721

Bovarnick, Marianna R. Substitution of heated asparagine-glutamate mixture for nicotinamide as a growth factor for *Bacterium dysenteriae* and other microorganisms, 151

Briggs, G. M., Jr., Luckey, T. D., Elvehjem, C. A., and **Hart, E. B.** Studies on two chemically unidentified water-soluble vitamins necessary for the chick, 163

—, —, **Teply, L. J., Elvehjem, C. A.,** and **Hart, E. B.** Studies on nicotinic acid deficiency in the chick, 517

Brown, Elmer B. See *Bina, Thomas, and Brown*, 111

Browne, J. S. L. See *Venning, Hoffman, and Browne*, 455

Bruger, Maurice, and **Member, Samuel.** On the fractionation of iodine in blood, 77

Bueding, Ernest, Fazekas, Joseph F., Herrlich, Herman, and **Himwich, Harold E.** Effect of insulin on pyruvic acid formation in depancreatized dogs, 97

Burris, R. H., Eppling, F. J., Wahlin, H. B., and **Wilson, P. W.** Detection of nitrogen fixation with isotopic nitrogen, 349

C

Cain, C. K. See *Katzman, Godfrid, Cain, and Doisy,* 501

—. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones,* 365

Chaikoff, I. L. See *Franklin and Chaikoff,* 719

Chargaff, Erwin, and **Sprinson, David B.** The mechanism of deamination of serine by *Bacterium coli.* 249

Cheng, Amber L. S. See *Weatherby and Cheng,* 707

Cohn, Gunther, and **Kolthoff, I. M.** Amperometric titration of picrolonic acid and indirect volumetric determination of calcium by precipitation as picrolonate and back titration of the excess of picrolonic acid with methylene blue, 711

Cohn, Mildred. See *Fishman and Cohn,* 619

Cohn, Waldo E. The determination of hemoglobin in tissue extracts or other turbid solutions, 219

Colowick, Sidney P., and **Kalckar, Herman M.** The rôle of myokinase in transphosphorylations. I. The enzymatic phosphorylation of hexoses by adenyl pyrophosphate, 117

Cori, Gerty T. See *Hassid, Cori, and McCready,* 89

Coryell, Charles D. See *Michaelis, Coryell, and Granick,* 463

Craig, Francis N. See *Beecher and Craig,* 383

Craig, Lyman C., and **Jacobs, Walter A.** The veratrine alkaloids. XVII. On Germine. Its formulation and degradation, 57

—. See *Jacobs and Craig,* 41, 51

D

Dessauer, Gerhard. See *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer,* 321

Doisy, Edward A. See *Katzman, Godfrid, Cain, and Doisy,* 501

—. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones,* 365

Doudoroff, M., Kaplan, N., and **Hassid, W. Z.** Phosphorolysis and synthesis of sucrose with a bacterial preparation, 67

Drinker, Nancy, and **Zinsser, Hans H.** The equilibrium between calcium and cephalin in various systems, 187

DuBois, K. P., and **Potter, V. R.** Activation of the adenosinetriphosphatase system by acetylcholine, 451

E

Eckert, H. William. Determination of *p*-aminobenzoic acid, conjugated *p*-aminobenzoic acid, and *p*-nitrobenzoic acid in blood, 197

—. A new micro colorimetric method for the determination of tryptophane, 205

Edwards, G. A., Scholander, P. F., and **Roughton, F. J. W.** Micro gasometric estimation of the blood gases. III. Nitrogen, 565

—. See *Scholander, Edwards, and Irving,* 495

Elvehjem, C. A. See *Briggs, Luckey, Elvehjem, and Hart,* 163

—. See *Briggs, Luckey, Teply, Elvehjem, and Hart,* 517

—. See *Field, Elvehjem, and Juday,* 261

Eppling, F. J. See *Burris, Eppling, Wahlin, and Wilson,* 349

F

Falkenheim, Marlene. See *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer,* 321

Fazekas, Joseph F. See *Bueding, Fazekas, Herrlich, and Himwich,* 97

Field, John B., Elvehjem, C. A., and **Juday, Chancey.** A study of the blood constituents of carp and trout, 261

Fishman, William H., and **Cohn, Mildred.** A comparative study of acetylation *in vivo* of phenylaminobutyric acid with *p*-aminobenzoic acid and sulfanilamide, 619

—. See *Artom and Fishman*, 405, 415, 423

Foster, Jackson W., and **Woodruff, H. Boyd.** Improvements in the cup assay for penicillin, 723

Fowler, Richard C. See *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321

Fraenkel-Conrat, Heinz. Effect of light in the Van Slyke method for the determination of amino groups, 453

Franklin, A. L., and **Chaikoff, I. L.** The effect of sulfanilamide on the conversion *in vitro* of inorganic iodine to thyroxine and diiodotyrosine by thyroid slices, 719

Frankston, Jane E. See *Albanese, Holt, Kajdi, and Frankston*, 299

G

Gaby, W. L. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones*, 365

Gavett, Elizabeth. See *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321

Gavin, Gertrude, Patterson, Jean M., and **McHenry, E. W.** Comparison of the lipotropic effects of choline, inositol, and lipocaic in rats, 275

Ginn, James T. See *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321

Godfrid, Marcos. See *Katzman, Godfrid, Cain, and Doisy*, 501

Goebel, Walther F., Shedlovsky, Theodore, Lavin, George I., and **Adams, Mark H.** The heterophile antigen of pneumococcus, 1

Gomori, G. Hexosediphosphatase, 139

Grail, Godfrey F. See *Stetten and Grail*, 509

Granick, S. See *Michaelis, Coryell, and Granick*, 463

Grauer, Robert C. See *Saier, Grauer, and Starkey*, 213

Green, D. E., Nocito, V., and **Ratner, S.** *l*-Amino acid oxidase of animal tissues, 461

Gross, Paul. See *Axelrod, Gross, Bosse, and Swingle*, 721

H

Haas, Erwin. Cytochrome oxidase, 481

Haines, William J. See *Rose, Haines, Johnson, and Warner*, 457

Handler, Philip, and **Bernheim, Frederick.** The effect of choline deficiency on the fat content of regenerated liver, 649

Hardin, Garrett. See *Strain, Manning, and Hardin*, 655

Harrison, Norman B. See *Turner, Kress, and Harrison*, 581

Hart, E. B. See *Briggs, Luckey, Elvehjem, and Hart*, 163

—. See *Briggs, Luckey, Teply, Elvehjem, and Hart*, 517

Hassid, W. Z., Cori, Gerty T., and **McCready, R. M.** Constitution of the polysaccharide synthesized by the action of crystalline muscle phosphorylase, 89

—. See *Doudoroff, Kaplan, and Hassid*, 67

Hastings, A. Baird. See *Tabor and Hastings*, 627

Hellman, L. M., Shettles, L. B., and **Stran, Herbert.** A quantitative method for the determination of sodium pentothal in blood, 293

Hemingway, Allan. See *Olsen, Hemingway, and Nier*, 611

Herrlich, Herman. See *Bueding, Fazekas, Herrlich, and Himwich*, 97

Hiller, Alma. See *Beckman, Hiller, Shedlovsky, and Archibald*, 247

Himwich, Harold E. See *Bueding, Fazekas, Herrlich, and Himwich*, 97

Hochberg, Melvin, Melnick, Daniel, Siegel, Louis, and **Oser, Bernard L.** Destruction of vitamin B_6 (pyridoxine) by light, 253

Hodge, Harold Carpenter, Koss, William F., Ginn, James T., Falkenheim, Marlene, Gavett, Elizabeth, Fowler, Richard C., Thomas, Isabell, Bonner, John F., and **Dessauer, Gerhard.** The nature of the insoluble sodium of bone. The adsorption of sodium at forty degrees by bone, dentin, enamel, and hydroxyapatite as shown by the radioactive isotope, 321

Hoffman, M. M. See *Venning, Hoffman, and Browne,* 455

Holt, L. Emmett, Jr. See *Albanese, Holt, Kajdi, and Frankston,* 299

Homan, D. M. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones,* 365

Horecker, B. L. The absorption spectra of hemoglobin and its derivatives in the visible and near infra-red regions, 173

I

Irving, Laurence. See *Scholander, Edwards, and Irving,* 495

Isbell, Edith R. See *Thompson, Isbell, and Mitchell,* 281

J

Jacobs, Walter A., and **Craig, Lyman C.** The veratrine alkaloids. XV. On rubijervine and isorubijervine, 41

— and —. XVI. The formulation of jervine, 51

— See *Craig and Jacobs,* 57

Jacoby, T. F. See *Theis and Jacoby,* 105, 603

Jaffé, Werner G. A simple method for the approximate estimation of the isoelectric point of soluble proteins, 185

Johnson, Julius E. See *Rose, Haines, Johnson, and Warner,* 457

Jones, L. R. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones,* 365

Juday, Chancey. See *Field, Elvehjem, and Juday,* 261

K

Kajdi, Charlotte N. See *Albanese, Holt, Kajdi, and Frankston,* 299

Kalckar, Herman M. The rôle of myokinase in transphosphorylations. II. The enzymatic action of myokinase on adenine nucleotides, 127

—. See *Colowick and Kalckar,* 117

Kaplan, N. See *Doudoroff, Kaplan, and Hassid,* 67

Katzman, Philip A., Godfrid, Marcos, Cain, C. K., and **Doisy, Edward A.** The preparation of chorionic gonadotropin by chromatographic adsorption, 501

—. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones,* 365

Keys, Ancel. See *Taylor and Keys,* 379

Kirch, Ernst R., and **Bergeim, Olaf.** Determination of *p*-aminobenzoic acid, 445

Kolthoff, I. M. See *Cohn and Kolthoff,* 711

Koss, William F. See *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer,* 321

Kratzer, F. H. See *Almquist, Kratzer, and Mecchi,* 17

Kress, Bernard H. See *Turner, Kress, and Harrison,* 581

Kuizenga, Marvin H., and **Spaulding, L. Bayard.** The preparation of the highly active barium salt of heparin and its fractionation into two chemically and biologically different constituents, 641

L

Lardy, Henry A., and **Phillips, Paul H.** Inhibition of sperm glycolysis and reversibility of the effects of metabolic inhibitors, 343

— and —. Inhibition of sperm respiration and reversibility of the effects of metabolic inhibitors, 333

Lavin, George I. See *Goebel, Shedlovsky, Lavin, and Adams,* 1

Lehninger, Albert L. The metabolism of acetopyruvic acid, 393

LePage, G. A., and **Umbreit, W. W.** The occurrence of adenosine-3-triphosphate in autotrophic bacteria, 255

Li, Choh Hao. Studies on pituitary lactogenic hormone. IX. The content of sulfur amino acid, 289

Little, Robert W., Thomas, A. W., and **Sherman, H. C.** Spectrophotometric studies of the storage of vitamin A in the body, 441

Loring, Hubert S., and **Pierce, John G.** The isolation by differential ultracentrifugation, identification, and properties of glycogen from *Macrosiphum pisi* and *Aphis brassicae*, 35

Luckey, T. D. See *Briggs, Luckey, Elvehjem, and Hart*, 163

—. See *Briggs, Luckey, Teply, Elvehjem, and Hart*, 517

M

Manning, Winston M. See *Strain, Manning, and Hardin*, 655

Masen, John M. The quantitative determination of atabrine in blood and urine, 529

McCready, R. M. See *Hassid, Cori, and McCready*, 89

McHenry, E. W. See *Gavin, Patterson, and McHenry*, 275

Mecchi, E. See *Almquist, Kratzer, and Mecchi*, 17

Melnick, Daniel. See *Hochberg, Melnick, Siegel, and Oser*, 253

Member, Samuel. See *Bruger and Member*, 77

Michaelis, Leonor, Coryell, Charles D., and **Granick, S.** Ferritin. III. The magnetic properties of ferritin and some other colloidal ferric compounds, 463

Mitchell, Herschel K. See *Thompson, Isbell, and Mitchell*, 281

Morris, Daniel Luzon. Hydrolysis of starch and glycogen by blood amylase, 271

—. Some effects of the intravenous injection of corn glycogen into rabbits, 699

Muir, R. D. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones*, 365

Munks, Bertha. See *Beach, Munks, and Robinson*, 431

Muntz, John A. Production of acids from glucose by dental plaque material, 225

N

Nield, Cyril H. See *Zimmerli, Nield, and Russell*, 245

Nier, A. O. See *Olsen, Hemingway, and Nier*, 611

Nocito, V. See *Green, Nocito, and Ratner*, 461

Nutt, A. L. See *Cohn*, 219

O

Olsen, Norman S., Hemingway, Allan, and **Nier, A. O.** The metabolism of glycine. I. Studies with the stable isotope of carbon, 611

Oser, Bernard L. See *Hochberg, Melnick, Siegel, and Oser*, 253

P

Patterson, Jean M. See *Gavin, Patterson, and McHenry*, 275

Pearl, Irwin A. Determination of iodides in urine, 85

Phillips, Paul H. See *Lardy and Phillips*, 333, 343

Pierce, John G. See *Loring and Pierce*, 35

Potter, V. R. See *DuBois and Potter*, 451

Purinton, Helen J., and **Schuck, Cecilia.** Metabolic interrelationships of ascorbic and citric acids, 237

R

Raistrick, H. See *Birkinshaw and Raistrick*, 459

Ratner, S. See *Green, Nocito, and Ratner*, 461

Reithel, F. J. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones*, 365

Roberts, E. C. See *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones*, 365

Robinson, Abner. See *Beach, Munks, and Robinson*, 431

Rose, William C., Haines, William J., Johnson, Julius E., and **Warner, Donald T.** Further experiments on the rôle of the amino acids in human nutrition, 457

Roughton, F. J. W., and **Scholander, P. F.** Micro gasometric estimation of the blood gases. I. Oxygen, 541

—. See *Edwards, Scholander, and Roughton,* 565

—. See *Scholander and Roughton,* 551, 573

Russell, Walter C. See *Zimmerli, Nield, and Russell,* 245

Ryan, Josephine. See *Talbot, Ryan, and Wolfe,* 593

S

Saier, Eleanor, Grauer, Robert C., and **Starkey, William F.** The chromogenic effect of varying mixtures of androsterone and dehydroisoandrosterone, 213

Sander, Frank V., Jr. The effects of high pressure on the inversion of sucrose and the mutarotation of glucose, 311

Scholander, P. F., Edwards, G. A., and **Irving, Laurence.** Improved micrometer burette, 495

— and **Roughton, F. J. W.** Micro gasometric estimation of the blood gases. II. Carbon monoxide, 551

— and —. IV. Carbon dioxide, 573

—. See *Edwards, Scholander, and Roughton,* 565

—. See *Roughton and Scholander,* 541

Schuck, Cecilia. See *Purinton and Schuck,* 237

Shaffer, C. Boyd. See *Strickler, Shaffer, Wilson, and Strickler,* 251

Shedlovsky, Theodore. See *Beckman, Hiller, Shedlovsky, and Archibald,* 247

—. See *Goebel, Shedlovsky, Lavin, and Adams,* 1

Sherman, H. C. See *Little, Thomas, and Sherman,* 441

Shettles, L. B. See *Hellman, Shettles, and Stran,* 293

Siegel, Louis. See *Hochberg, Melnick, Siegel, and Oser,* 253

Silber, Robert H. See *Tennent and Silber,* 359

Spaulding, L. Bayard. See *Kuizenga and Spaulding,* 641

Sprinson, David B. See *Chargaff and Sprinson,* 249

Stadie, William C., and **Zapp, John A., Jr.** The aerobic carbohydrate and lactic acid metabolism of muscle preparations *in vitro,* 669

Ställberg-Stenhagen, Stina, and **Stenhagen, Einar.** Monolayers of compounds with branched hydrocarbon chains. VI. 2-Methyl- and 10-methyl-substituted carboxylic acids of high molecular weight, 685

Starkey, William F. See *Saier, Grauer, and Starkey,* 213

Stenhagen, Einar. X-ray study of the hydrocarbon from phthiocerol, 695

—. See *Ställberg-Stenhagen and Stenhagen,* 685

Stetten, DeWitt, Jr., and **Grail, Godfrey F.** The rates of replacement of depot and liver fatty acids in mice, 509

Stotz, Elmer. A colorimetric determination of acetaldehyde in blood, 585

Strain, Harold H., Manning, Winston M., and **Hardin, Garrett.** Chlorophyll *c* (chlorofucine) of diatoms and dinoflagellates, 655

Stran, Herbert. See *Hellman, Shettles, and Stran,* 293

Strickler, Evelyn W. See *Strickler, Shaffer, Wilson, and Strickler,* 251

Strickler, Herbert S., Shaffer, C. Boyd, Wilson, Donald A., and **Strickler, Evelyn W.** A new steroid glucuronide from human urine, 251

Swanson, Marjorie. See *Artom and Swanson,* 633

Swingle, K. F. See *Axelrad, Gross, Bosse, and Swingle,* 721

T

Tabor, Herbert, and **Hastings, A. Baird.** The ionization constant of secondary magnesium phosphate, 627

Talbot, Nathan B., Ryan, Josephine, and **Wolfe, John K.** The determination of sodium dehydroisoandrosterone sulfate in water or urine, 593

Taylor, Henry Longstreet, and **Keys, Ancel.** Fractionation of normal serum proteins by the electrophoretic and sodium sulfate methods, 379

Tennent, David M., and **Silber, Robert H.** The excretion of ascorbic acid, thiamine, riboflavin, and pantothenic acid in sweat, 359

Teply, L. J. See *Briggs, Luckey, Teply, Elvehjem, and Hart*, 517

Theis, Edwin R., and **Jacoby, T. F.** The acid- and base-binding capacity of heat-denatured collagen, 105

— and —. The acid-, base-, and salt-binding capacity of salt-denatured collagen, 603

Thomas, A. W. See *Little, Thomas, and Sherman*, 441

Thomas, Isabell. See *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321

Thomas, James M. See *Bina, Thomas, and Brown*, 111

Thompson, Roy C., Isbell, Edith R., and **Mitchell, Herschel K.** A microbiological assay method for *p*-aminobenzoic acid, 281

Turner, William J., Kress, Bernard H., and **Harrison, Norman B.** Determination of dihydroxyacetone in blood, 581

U

Umbreit, W. W. See *LePage and Umbreit*, 255

V

Van Bruggen, J. T., Reithel, F. J., Cain, C. K., Katzman, Philip A., Doisy, Edward A., Muir, R. D., Roberts, E. C., Gaby, W. L., Homan, D. M., and **Jones, L. R.** Penicillin B: preparation, purification, and mode of action, 365

Venning, Eleanor H., Hoffman, M. M., and **Browne, J. S. L.** The life-maintaining and gluconeogenic properties of the cortin-like material excreted postoperatively, 455

W

Wahlin, H. B. See *Burris, Eppling, Wahlin, and Wilson*, 349

Warner, Donald T. See *Rose, Haines, Johnson, and Warner*, 457

Weatherby, LeRoy S., and **Cheng, Amber L. S.** The determination of flavones or quercetin-like substances in certain naturally occurring products, 707

Wendel, William B. Respiratory and carbohydrate metabolism of malaria parasites (*Plasmodium knowlesi*), 21

Westerfeld, W. W., and **Berg, Robert L.** Observations on the metabolism of acetoin, 523

Wilson, Donald A. See *Strickler, Shaffer, Wilson, and Strickler*, 251

Wilson, P. W. See *Burris, Eppling, Wahlin, and Wilson*, 349

Wolfe, John K. See *Talbot, Ryan, and Wolfe*, 593

Woodruff, H. Boyd. See *Foster and Woodruff*, 723

Z

Zapp, John A., Jr. See *Stadie and Zapp*, 669

Zimmerli, A., Nield, Cyril H., and **Russell, Walter C.** A modified antimony trichloride reagent for the determination of certain sterols and vitamins D_2 and D_3, 245

Zinsser, Hans H. See *Drinker and Zinsser*, 187

INDEX TO SUBJECTS

A

Acetaldehyde: Blood, determination, colorimetric, *Stotz*, 585

Acetoin: Metabolism, *Westerfeld and Berg*, 523

Acetone: Dihydroxy-, blood, determination, *Turner, Kress, and Harrison*, 581

Acetopyruvic acid: Metabolism, *Lehninger*, 393

Acetylcholine: Adenosinetriphosphatase system, activation, *DuBois and Potter*, 451

Acid(s): Production from glucose, dental plaque relation, *Muntz*, 225

Adenine: Nucleotides, myokinase action, *Kalckar*, 127

Adenosinetriphosphatase: System, acetylcholine, activation, *DuBois and Potter*, 451

Adenosine-3-triphosphate: Bacteria, autotrophic, *LePage and Umbreit*, 255

Adenyl pyrophosphate: Hexose phosphorylation, enzyme, rôle, *Colowick and Kalckar*, 117

Aerodehydrogenase: Glucose, antibacterial, *Penicillium notatum, Birkinshaw and Raistrick*, 459

Alkaloid(s): Veratrine, *Jacobs and Craig*, 41, 51
Craig and Jacobs, 57

Amino acid(s): *l*-, oxidase, tissue, *Green, Nocito, and Ratner*, 461
Nutrition, *Rose, Haines, Johnson, and Warner*, 457
Sulfur, pituitary lactogenic hormone, *Li*, 289
Tissue protein, *Beach, Munks, and Robinson*, 431

Aminobenzoic acid: *p*-, blood, determination, *Eckert*, 197
—, conjugated, blood, determination, *Eckert*, 197
—, determination, *Kirch and Bergeim*, 445
—, —, microbiological, *Thompson, Isbell, and Mitchell*, 281

Aminobenzoic acid—*Continued:*
p-, phenylaminobutyric acid acetylation *in vivo*, relation, *Fishman and Cohn*, 619

Amino group(s): Determination, Van Slyke, light effect, *Fraenkel-Conrat*, 453

Amylase: Blood, glycogen hydrolysis, *Morris*, 271
—, starch hydrolysis, *Morris*, 271

Androsterone: Dehydroisoandrosterone and, chromogenic effect, *Saier, Grauer, and Starkey*, 213
Sodium dehydroiso-, sulfate, water and urine, determination, *Talbot, Ryan, and Wolfe*, 593

Antigen: Pneumococcus, *Goebel, Shedlovsky, Lavin, and Adams*, 1

Antimony trichloride: Sterols, determination, use, *Zimmerli, Nield, and Russell*, 245
Vitamins D_2 and D_3, determination, use, *Zimmerli, Nield, and Russell*, 245

Aphid(s): Glycogen, isolation and properties, *Loring and Pierce*, 35

Aphis brassicae: *See* Aphid

Apparatus: Micrometer burette, *Scholander, Edwards, and Irving*, 495

Ascorbic acid: Citric acid and, metabolism, *Purinton and Schuck*, 237
Perspiration, *Tennent and Silber*, 359

Asparagine: -Glutamate, *Bacterium dysenteriae* and microorganisms, growth factor, *Bovarnick*, 151

Atabrine: Blood, determination, *Masen*, 529
Urine, determination, *Masen*, 529

B

Bacteria: Anti-, glucose aerodehydrogenase from *Penicillium notatum, Birkinshaw and Raistrick*, 459
Autotrophic, adenosine-3-triphosphate, *LePage and Umbreit*, 255
Sucrose phosphorolysis and synthesis, *Doudoroff, Kaplan, and Hassid*, 67

Bacterium coli: Serine determination, rôle, *Chargaff and Sprinson*, 249
Bacterium dysenteriae: Growth, asparagine-glutamate effect, *Bovarnick*, 151
Benzoic acid: *p*-Amino-, blood, determination, *Eckert*, 197
—, conjugated, blood, determination, *Eckert*, 197
—, determination, *Kirch and Bergeim*, 445
—, —, microbiological, *Thompson, Isbell, and Mitchell*, 281
—, phenylaminobutyric acid acetylation *in vivo*, relation, *Fishman and Cohn*, 619
p-Nitro-, blood, determination, *Eckert*, 197
Blood: Acetaldehyde, determination, colorimetric, *Stotz*, 585
p-Aminobenzoic acid, conjugated, determination, *Eckert*, 197
— —, determination, *Eckert*, 197
Amylase, glycogen hydrolysis, *Morris*, 271
—, starch hydrolysis, *Morris*, 271
Atabrine, determination, *Masen*, 529
Carbon dioxide, determination, gasometric, micro, *Scholander and Roughton*, 573
— monoxide, determination, gasometric, micro, *Scholander and Roughton*, 551
Carp and trout, *Field, Elvehjem, and Juday*, 261
Dihydroxyacetone, determination, *Turner, Kress, and Harrison*, 581
Gases, determination, gasometric, micro, *Roughton and Scholander*, 541
Scholander and Roughton, 551
Edwards, Scholander, and Roughton, 565
Scholander and Roughton, 573
Iodine fractionation, *Bruger and Member*, 77
p-Nitrobenzoic acid, determination, *Eckert*, 197
Nitrogen, determination, gasometric, micro, *Edwards, Scholander, and Roughton*, 565
Blood—*Continued:*
Oxygen, determination, gasometric, micro, *Roughton and Scholander*, 541
Sodium pentothal determination, *Hellman, Shettles, and Stran*, 293
Tryptophane deficiency, effect, *Albanese, Holt, Kajdi, and Frankston*, 299
Blood serum: Proteins, fractionation, electrophoretic and sodium sulfate methods, *Taylor and Keys*, 379
Bone: Sodium adsorption, radioactive isotope in study, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321
—, insoluble, nature, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321
Burette: Micrometer, *Scholander, Edwards, and Irving*, 495
Butyric acid: Phenylamino-, acetylation *in vivo*, *p*-aminobenzoic acid and sulfanilamide relation, *Fishman and Cohn*, 619

C

Calcium: -Cephalin equilibrium, *Drinker and Zinsser*, 187
Determination, picrolonic acid use, *Cohn and Kolthoff*, 711
Carbohydrate(s): Metabolism, malaria parasites, *Wendel*, 21
Muscle, metabolism *in vitro*, *Stadie and Zapp*, 669
Carbon: Isotope, glycine metabolism study with, *Olsen, Hemingway, and Nier*, 611
Carbon dioxide: Blood, determination, gasometric, micro, *Scholander and Roughton*, 573
Carbon monoxide: Blood, determination, gasometric, micro, *Scholander and Roughton*, 551
Carboxylic acid(s): 2-Methyl-substituted, monolayers, *Ställberg-Stenhagen and Stenhagen*, 685
10-Methyl-substituted, monolayers, *Ställberg-Stenhagen and Stenhagen*, 685
Carp: Blood constituents, *Field, Elvehjem, and Juday*, 261

Cephalin: Calcium-, equilibrium, *Drinker and Zinsser,* 187
Chick: Nicotinic acid deficiency, *Briggs, Luckey, Teply, Elvehjem, and Hart,* 517
Vitamins, water-soluble, essential, *Briggs, Luckey, Elvehjem, and Hart,* 163
Chlorofucine: Diatoms and dinoflagellates, *Strain, Manning, and Hardin,* 655
Chlorophyll: *c. See* Chlorofucine
Choline: Acetyl-, adenosinetriphosphatase system, activation, *DuBois and Potter,* 451
Lipotropic effect, *Gavin, Patterson, and McHenry,* 275
Liver fat, effect, *Handler and Bernheim,* 649
Citric acid: Ascorbic acid and, metabolism, *Purinton and Schuck,* 237
Collagen: Heat-denatured, acid- and base-binding capacity, *Theis and Jacoby,* 105
Salt-denatured, acid-, base-, and salt-binding capacity, *Theis and Jacoby,* 603
Corn: Glycogen, injection effect, *Morris,* 699
Cortin: -Like material, urine, life-maintaining and gluconeogenic properties, *Venning, Hoffman, and Browne,* 455
Creatine: Formation, chick, *Almquist, Kratzer, and Mecchi,* 17
Cytochrome oxidase: *Haas,* 481

D

Dehydrogenase: Aero-, glucose, antibacterial, *Penicillium notatum, Birkinshaw and Raistrick,* 459
Dehydroisoandrosterone: Androsterone and, chromogenic effect, *Saier, Grauer, and Starkey,* 213
Dental plaque: Acid production of glucose, relation, *Muntz,* 225
Dentin: Sodium adsorption, radioactive isotope in study, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer,* 321
Diatom(s): Chlorofucine, *Strain, Manning, and Hardin,* 655
Diet: Tissue phospholipids, relation, *Artom and Fishman,* 405, 415, 423
Dihydroxyacetone: Blood, determination, *Turner, Kress, and Harrison,* 581
Diiodotyrosine: Iodine, inorganic, conversion *in vitro,* thyroid, sulfanilamide effect, *Franklin and Chaikoff,* 719
Dinoflagellate(s): Chlorofucine, *Strain, Manning, and Hardin,* 655

E

Enamel: Sodium adsorption, radioactive isotope in study, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer,* 321
Enzyme(s): Hexose phosphorylation, adenyl pyrophosphate rôle, *Colowick and Kalckar,* 117
See also Adenosinetriphosphatase, Aerodehydrogenase, Amylase, Hexosediphosphatase, Myokinase, Oxidase, Phosphorylase

F

Fat(s): Liver, bromo-substituted fatty acids, effect, *Artom and Swanson,* 633
—, choline effect, *Handler and Bernheim,* 649
Fatty acid(s): Body, replacement rate, *Stetten and Grail,* 509
Bromo-substituted, liver fat, effect, *Artom and Swanson,* 633
Liver, replacement rate, *Stetten and Grail,* 509
Ferric compound(s): Colloidal, magnetic properties, *Michaelis, Coryell, and Granick,* 463
Ferritin: *Michaelis, Coryell, and Granick,* 463
Magnetic properties, *Michaelis, Coryell, and Granick,* 463
Flavone(s): Determination, *Weatherby and Cheng,* 707

Food: Pyridoxine determination, *Bina, Thomas, and Brown,* 111

G

Gas(es): Blood, determination, gasometric, micro, *Roughton and Scholander,* 541
Scholander and Roughton, 551
Edwards, Scholander, and Roughton, 565
Scholander and Roughton, 573
Germine: Chemical constitution, *Craig and Jacobs,* 57
Degradation, *Craig and Jacobs,* 57
Glucose: Acids from, dental plaque relation, *Muntz,* 225
Aerodehydrogenase, antibacterial, *Penicillium notatum, Birkinshaw and Raistrick,* 459
Mutarotation, pressure effect, *Sander,* 311
Glucuronide: Steroid, urine, *Strickler, Shaffer, Wilson, and Strickler,* 251
Glutamate: Asparagine-, *Bacterium dysenteriae* and microorganisms, growth factor, *Bovarnick,* 151
Glycine: Metabolism, *Olsen, Hemingway, and Nier,* 611
—, carbon isotope in study, *Olsen, Hemingway, and Nier,* 611
Glycogen: *Aphis brassicae,* isolation and properties, *Loring and Pierce,* 35
Corn, injection effect, *Morris,* 699
Hydrolysis, blood amylase, *Morris,* 271
Macrosiphum pisi, isolation and properties, *Loring and Pierce,* 35
Glycolysis: Spermatozoa, *Lardy and Phillips,* 343
Gonadotropin: Chorionic, preparation, *Katzman, Godfrid, Cain, and Doisy,* 501
Granulopenia: Sulfaguanidine effect, *Axelrod, Gross, Bosse, and Swingle,* 721
Growth: *Bacterium dysenteriae* and microorganisms, asparagine-glutamate effect, *Bovarnick,* 151

H

Hemoglobin: Absorption spectrum, *Horecker,* 173
Derivatives, absorption spectrum, *Horecker,* 173
Solutions, turbid, determination, *Cohn,* 219
Tissue extracts, determination, *Cohn,* 219
Hemorrhage: Shock, tissue metabolism, effect, *Beecher and Craig,* 383
Heparin: Barium salt, active, preparation and fractionation, *Kuizenga and Spaulding,* 641
Hexose(s): Phosphorylation, enzyme, adenyl pyrophosphate rôle, *Colowick and Kalckar,* 117
Hexosediphosphatase: *Gomori,* 139
Hydrocarbon(s): Branched chain, monolayers, *Ställberg-Stenhagen and Stenhagen,* 685
Phthiocerol, x-ray study, *Stenhagen,* 695
Hydroxyapatite: Sodium adsorption, radioactive isotope in study, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer,* 321

I

Inositol: Lipotropic effect, *Gavin, Patterson, and McHenry,* 275
Insulin: Pyruvic acid formation, effect, pancreatectomy and, *Bueding, Fazekas, Herrlich, and Himwich,* 97
Iodide(s): Urine, determination, *Pearl,* 85
Iodine: Blood, fractionation, *Bruger and Member,* 77
Isorubijervine: *Jacobs and Craig,* 41

J

Jervine: Chemical constitution, *Jacobs and Craig,* 51
Isorubi-, *Jacobs and Craig,* 41
Rubi-, *Jacobs and Craig,* 41

L

Lactic acid: Muscle, metabolism *in vitro*, *Stadie and Zapp*, 669
Lactogenic hormone: Pituitary, *Li*, 289
—, sulfur amino acid, *Li*, 289
Leucopenia: Sulfaguanidine effect, *Axelrod, Gross, Bosse, and Swingle*, 721
Light: Amino groups, determination, Van Slyke, effect, *Fraenkel-Conrat*, 453
Pyridoxine, effect, *Hochberg, Melnick, Siegel, and Oser*, 253
Lipid(s): Liver, *Artom and Fishman*, 405
Muscle, *Artom and Fishman*, 405
Phospho-. *See* Phospholipids
Lipocaic: Lipotropic effect, *Gavin, Patterson, and McHenry*, 275
Liver: Fat, bromo-substituted fatty acids, effect, *Artom and Swanson*, 633
—, choline effect, *Handler and Bernheim*, 649
Fatty acids, replacement rate, *Stetten and Grail*, 509
Lipids, *Artom and Fishman*, 405

M

Macrosiphum pisi: *See* Aphid
Magnesium phosphate: Secondary, ionization constant, *Tabor and Hastings*, 627
Malaria: *See also Plasmodium knowlesi*
Metabolism: Tissue, hemorrhage shock, effect, *Beecher and Craig*, 383
Micrometer burette: *Scholander, Edwards, and Irving*, 495
Microorganism(s): Growth, asparagine-glutamate effect, *Bovarnick*, 151
Monolayer(s): Hydrocarbons, branched chain, *Ställberg-Stenhagen and Stenhagen*, 685
Muscle: Carbohydrate metabolism *in vitro*, *Stadie and Zapp*, 669
Lactic acid metabolism *in vitro*, *Stadie and Zapp*, 669
Lipids, *Artom and Fishman*, 405
Muscle—*Continued:*
Phosphorylase, crystalline, polysaccharide synthesis, relation, *Hassid, Cori, and McCready*, 89
Myokinase: Adenine nucleotides, action, *Kalckar*, 127
Transphosphorylations, rôle, *Colowick and Kalckar*, 117
Kalckar, 127

N

Nicotinic acid: Deficiency, chick, *Briggs, Luckey, Teply, Elvehjem, and Hart*, 517
Nitrobenzoic acid: *p*-, blood, determination, *Eckert*, 197
Nitrogen: Blood, determination, gasometric, micro, *Edwards, Scholander, and Roughton*, 565
Fixation, detection, isotopic nitrogen in study, *Burris, Eppling, Wahlin, and Wilson*, 349
Notatin: *Birkinshaw and Raistrick*, 459
See also Penicillin
Nucleotide(s): Adenine, myokinase action, *Kalckar*, 127
Nutrition: Amino acids, *Rose, Haines, Johnson, and Warner*, 457

O

Oxidase: *l*-Amino acid, tissue, *Green, Nocito, and Ratner*, 461
Cytochrome, *Haas*, 481
Oxygen: Blood, determination, gasometric, micro, *Roughton and Scholander*, 541

P

Pancreatectomy: Pyruvic acid formation, insulin and, effect, *Bueding, Fazekas, Herrlich, and Himwich*, 97
Pantothenic acid: Perspiration, *Tennent and Silber*, 359
Penicillin: B, preparation, purification, and mode of action, *Van Bruggen, Reithel, Cain, Katzman, Doisy, Muir, Roberts, Gaby, Homan, and Jones*, 365

Penicillin—*Continued:*
Determination, *Foster and Woodruff*, 723
See also Notatin
Penicillium notatum: Antibacterial glucose aerodehydrogenase from, *Birkinshaw and Raistrick*, 459
Perspiration: Ascorbic acid, thiamine, riboflavin, and pantothenic acid, *Tennent and Silber*, 359
Phenylaminobutyric acid: Acetylation, *in vivo*, *p*-aminobenzoic acid and sulfanilamide relation, *Fishman and Cohn*, 619
Phosphatase: Adenosinetri-, system, acetylcholine, activation, *DuBois and Potter*, 451
Hexosedi-, *Gomori*, 139
Phospholipid(s): Tissue, diet relation, *Artom and Fishman*, 405, 415, 423
Phosphorylase: Muscle, crystalline, polysaccharide synthesis relation, *Hassid, Cori, and McCready*, 89
Phthiocerol: Hydrocarbon, x-ray study, *Stenhagen*, 695
Picrolonic acid: Calcium determination, use in, *Cohn and Kolthoff*, 711
Titration, amperometric, *Cohn and Kolthoff*, 711
Pituitary: Lactogenic hormone, *Li*, 289
— —, sulfur amino acid, *Li*, 289
Plasmodium knowlesi: Carbohydrate metabolism, *Wendel*, 21
Respiratory metabolism, *Wendel*, 21
Pneumococcus: Antigen, heterophile, *Goebel, Shedlovsky, Lavin, and Adams*, 1
Polysaccharide: Synthesis, muscle phosphorylase, *Hassid, Cori, and McCready*, 89
Protein(s): Blood serum, fractionation, electrophoretic and sodium sulfate methods, *Taylor and Keys*, 379
Soluble, isoelectric point, determination, *Jaffé*, 185
Tissue, amino acids, *Beach, Munks, and Robinson*, 431
Urine, trichloroacetic acid-soluble, *Beckman, Hiller, Shedlovsky, and Archibald*, 247
Pyridoxine: Foods, determination, *Bina, Thomas, and Brown*, 111
Light effect, *Hochberg, Melnick, Siegel, and Oser*, 253
Pyruvic acid: Aceto-, metabolism, *Lehninger*, 393
Formation, insulin and pancreatectomy, effect, *Bueding, Fazekas, Herrlich, and Himwich*, 97

Q

Quercetin: -Like substances, determination, *Weatherby and Cheng*, 707

R

Respiratory metabolism: Malaria parasites, *Wendel*, 21
Riboflavin: Perspiration, *Tennent and Silber*, 359
Rubijervine: *Jacobs and Craig*, 41

S

Serine: Deamination, *Bacterium coli* rôle, *Chargaff and Sprinson*, 249
Shock: Hemorrhage, tissue metabolism, effect, *Beecher and Craig*, 383
Sodium: Bone, adsorption, radioactive isotope in study, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321
Dentin, adsorption, radioactive isotope in study, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321
Enamel, adsorption, radioactive isotope in study, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321
Hydroxyapatite, adsorption, radioactive isotope in study, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321
Insoluble, bone, nature, *Hodge, Koss, Ginn, Falkenheim, Gavett, Fowler, Thomas, Bonner, and Dessauer*, 321
Sodium dehydroisoandrosterone sulfate: Urine, determination, *Talbot, Ryan, and Wolfe*, 593
Water, determination, *Talbot, Ryan and Wolfe*, 593

Sodium pentothal: Blood, determination, *Hellman, Shettles, and Stran,* 293
Spermatozoa: Glycolysis, *Lardy and Phillips,* 343
Metabolism, *Lardy and Phillips,* 333
Starch, Hydrolysis, blood amylase, *Morris,* 271
Sterol(s): Determination, antimony trichloride reagent, *Zimmerli, Nield, and Russell,* 245
Sucrose: Inversion, pressure effect, *Sander,* 311
Phosphorolysis, bacterial, *Doudoroff, Kaplan, and Hassid,* 67
Synthesis, bacterial, *Doudoroff, Kaplan, and Hassid,* 67
Sulfaguanidine: Granulopenia, effect, *Axelrod, Gross, Bosse, and Swingle,* 721
Leucopenia, effect, *Axelrod, Gross, Bosse, and Swingle,* 721
Sulfanilamide: Phenylaminobutyric acid acetylation *in vivo,* relation, *Fishman and Cohn,* 619
Thyroxine and diiodotyrosine conversion from iodine, inorganic, *in vitro,* thyroid, effect, *Franklin and Chaikoff,* 719
Sulfur: Amino acid, pituitary lactogenic hormone, *Li,* 289
Sweat: *See* Perspiration

T

Thiamine: Perspiration, *Tennent and Silber,* 359
Thyroid: Thyroxine and diiodotyrosine conversion from iodine, inorganic, *in vitro,* sulfanilamide effect, *Franklin and Chaikoff,* 719
Thyroxine: Iodine, inorganic, conversion *in vitro,* thyroid, sulfanilamide effect, *Franklin and Chaikoff,* 719
Tissue(s): Metabolism, hemorrhage shock, effect, *Beecher and Craig,* 383
Phospholipids, diet relation, *Artom and Fishman,* 405, 415, 423
Tooth: *See also* Dental plaque
Transphosphorylation: Myokinase rôle, *Colowick and Kalckar,* 117
Kalckar, 127
Trout: Blood constituents, *Field, Elvehjem, and Juday,* 261
Tryptophane: Deficiency, blood, effect, *Albanese, Holt, Kajdi, and Frankston,* 299
Determination, colorimetric, micro, *Eckert,* 205
Tyrosine: Diiodo-, iodine, inorganic, conversion *in vitro,* thyroid, sulfanilamide effect, *Franklin and Chaikoff,* 719

U

Urine: Atabrine, determination, *Masen,* 529
Cortin-like material, *Venning, Hoffman, and Browne,* 455
Glucuronide, steroid, *Strickler, Shaffer, Wilson, and Strickler,* 251
Iodides, determination, *Pearl,* 85
Protein, trichloroacetic acid-soluble, *Beckman, Hiller, Shedlovsky, and Archibald,* 247
Sodium dehydroisoandrosterone sulfate, determination, *Talbot, Ryan, and Wolfe,* 593

V

Veratrine: Alkaloids, *Jacobs and Craig,* 41, 51
Craig and Jacobs, 57
Vitamin(s): A, storage, body, *Little, Thomas, and Sherman,* 441
B_6. *See also* Pyridoxine
C. *See also* Ascorbic acid
D_2, determination, antimony trichloride reagent, *Zimmerli, Nield, and Russell,* 245
D_3, determination, antimony trichloride reagent, *Zimmerli, Nield, and Russell,* 245
Water-soluble, essential, chick, *Briggs, Luckey, Elvehjem, and Hart,* 163

W

Water: Sodium dehydroisoandrosterone sulfate, determination, *Talbot, Ryan, and Wolfe,* 593